

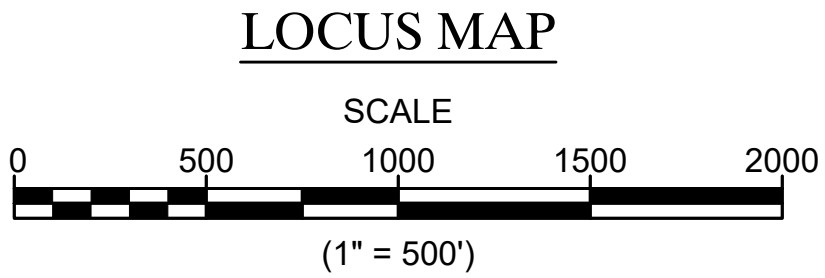
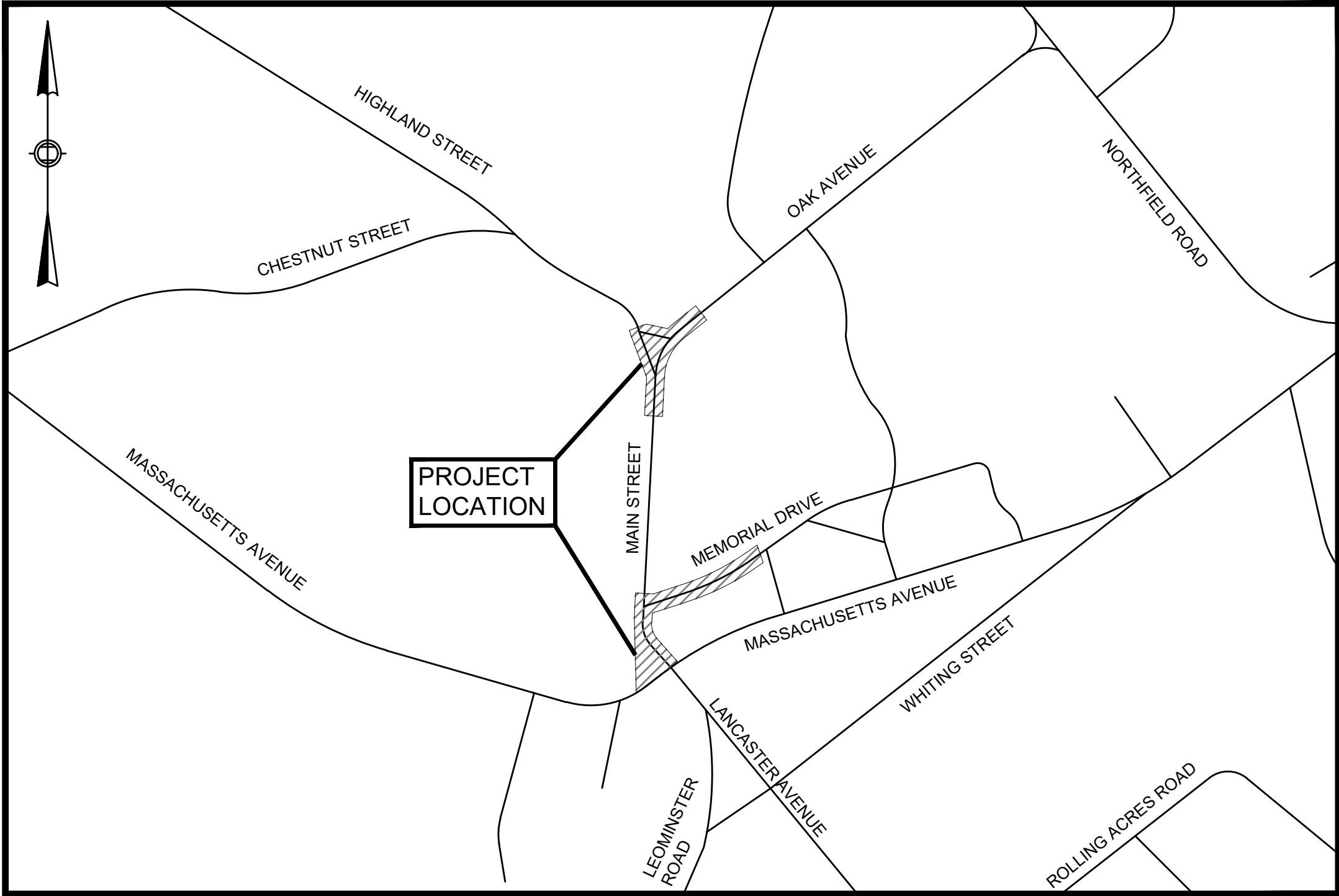
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TOWN OF LUNENBURG

COMPLETE STREETS PROJECT – THREE LOCATIONS

IN THE TOWN OF
LUNENBURG
WORCESTER COUNTY
THE COMMONWEALTH OF MASSACHUSETTS

INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	LEGEND, ABBREVIATIONS & GENERAL NOTES
3 - 5	GENERAL PLANS
6 - 8	CURB TIE AND GRADING PLANS
9	TRAFFIC SIGN SUMMARY
10	CONSTRUCTION DETAILS AND PAVEMENT NOTES
11-12	PEDESTRIAN CURB RAMP AND DRIVEWAY DETAILS










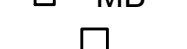







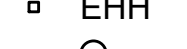
























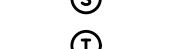




















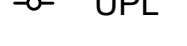













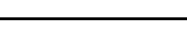

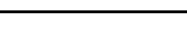


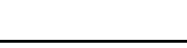

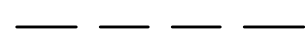



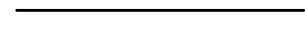




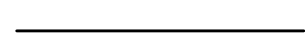

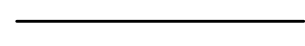

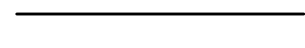



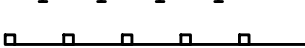
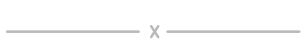
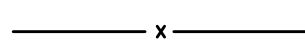

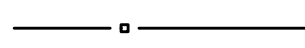

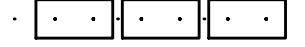





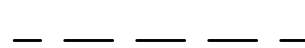










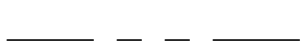
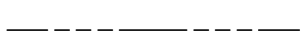



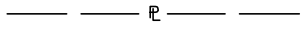












THESE PLANS ARE SUPPLEMENTED BY THE MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 2021, THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.



















































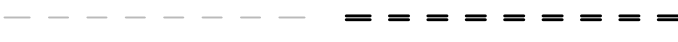
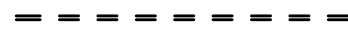
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							WTE PROJ. NO:	20-019.01		
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GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER ON BRIDGE OR JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		STEEL POLE
		WELL
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		LIGHT POLE WITH LUMINAIRE
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCE STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE OR LIMIT OF CLEARING AND GRUBBING
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
		RAILROAD SIGNAL
		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
		MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

GENERAL NOTES:

- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 1-888-DIG-SAFE AT LEAST 72 HOURS PRIOR TO COMMENCING WORK ON THE PROJECT AREA. THE CONTRACTOR SHALL PROVIDE DIGSAFE REPORTING NUMBERS TO THE ENGINEER.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES AND WORK TO BE DONE BY OTHERS.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
- THE TERM "PROPOSED" (PROP.) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, REUSING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
- ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.
- FIELD SURVEY PROVIDED BY CHAPPELL ENGINEERING ASSOCIATES, 201 BOSTON POST ROAD, MARLBOROUGH, MA 01752 IN NOVEMBER 2020. HORIZONTAL DATUM IS BASED ON MASS GRID SYSTEM NAD 1983. ELEVATIONS SHOWN ON THE PLAN REFER TO THE NAVD OF 1988.

ABBREVIATIONS

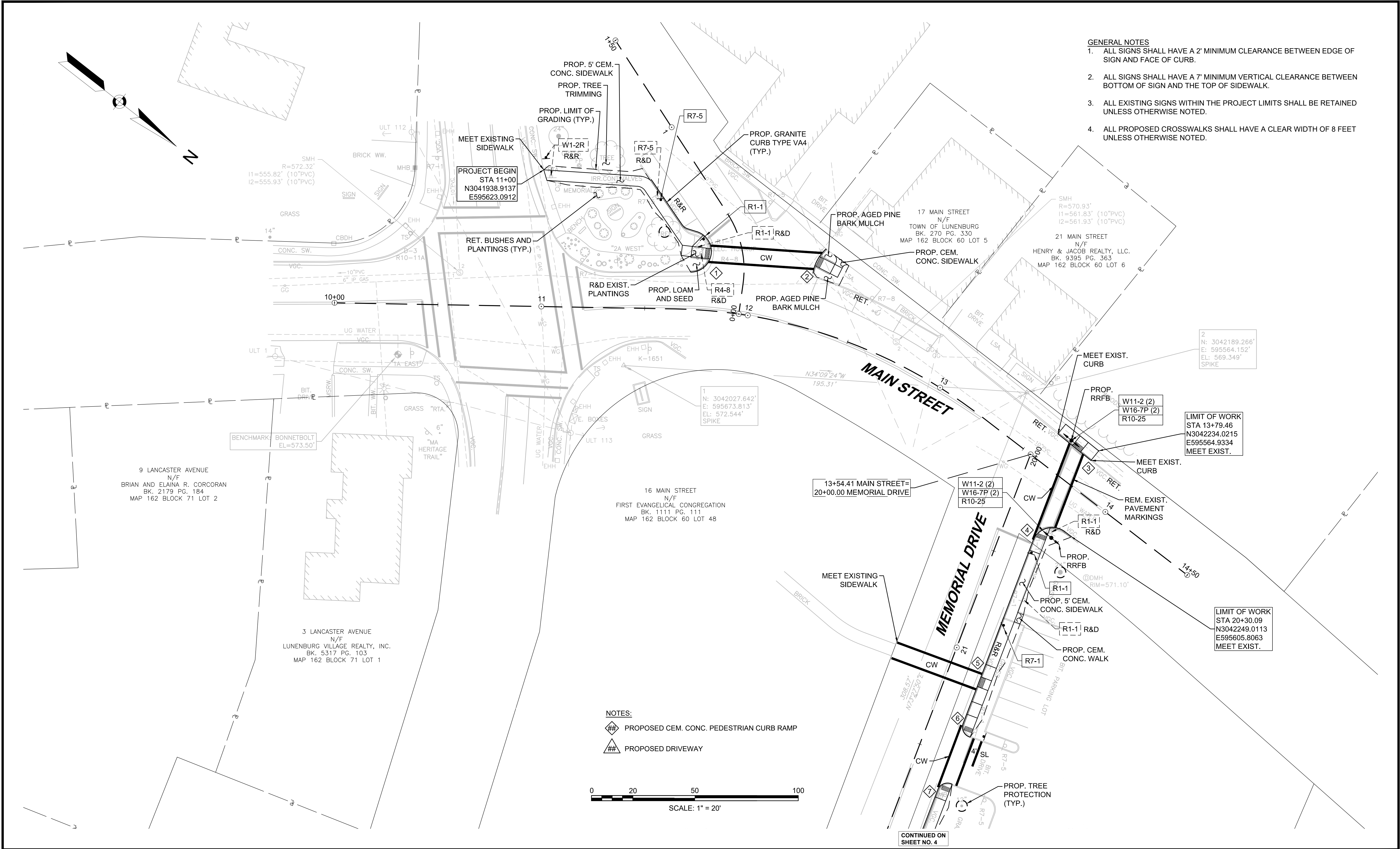
GENERAL	
AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CRETW	CONCRETE RETAINING WALL
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LPT	LOW POINT
LT	LEFT

ABBREVIATIONS (cont.)

GENERAL	
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
RRFB	RECTANGULAR RAPID FLASH BEACON
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

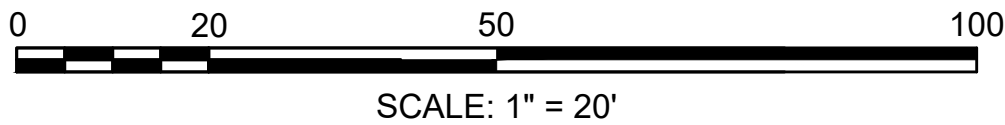
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							DESIGNED BY:	KMC		
							CHECKED BY:	TFQ		

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- GENERAL NOTES**
1. ALL SIGNS SHALL HAVE A 2' MINIMUM CLEARANCE BETWEEN EDGE OF SIGN AND FACE OF CURB.
 2. ALL SIGNS SHALL HAVE A 7' MINIMUM VERTICAL CLEARANCE BETWEEN BOTTOM OF SIGN AND THE TOP OF SIDEWALK.
 3. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS OTHERWISE NOTED.
 4. ALL PROPOSED CROSSWALKS SHALL HAVE A CLEAR WIDTH OF 8 FEET UNLESS OTHERWISE NOTED.

- NOTES:**
- PROPOSED CEM. CONC. PEDESTRIAN CURB RAMP
 - PROPOSED DRIVEWAY

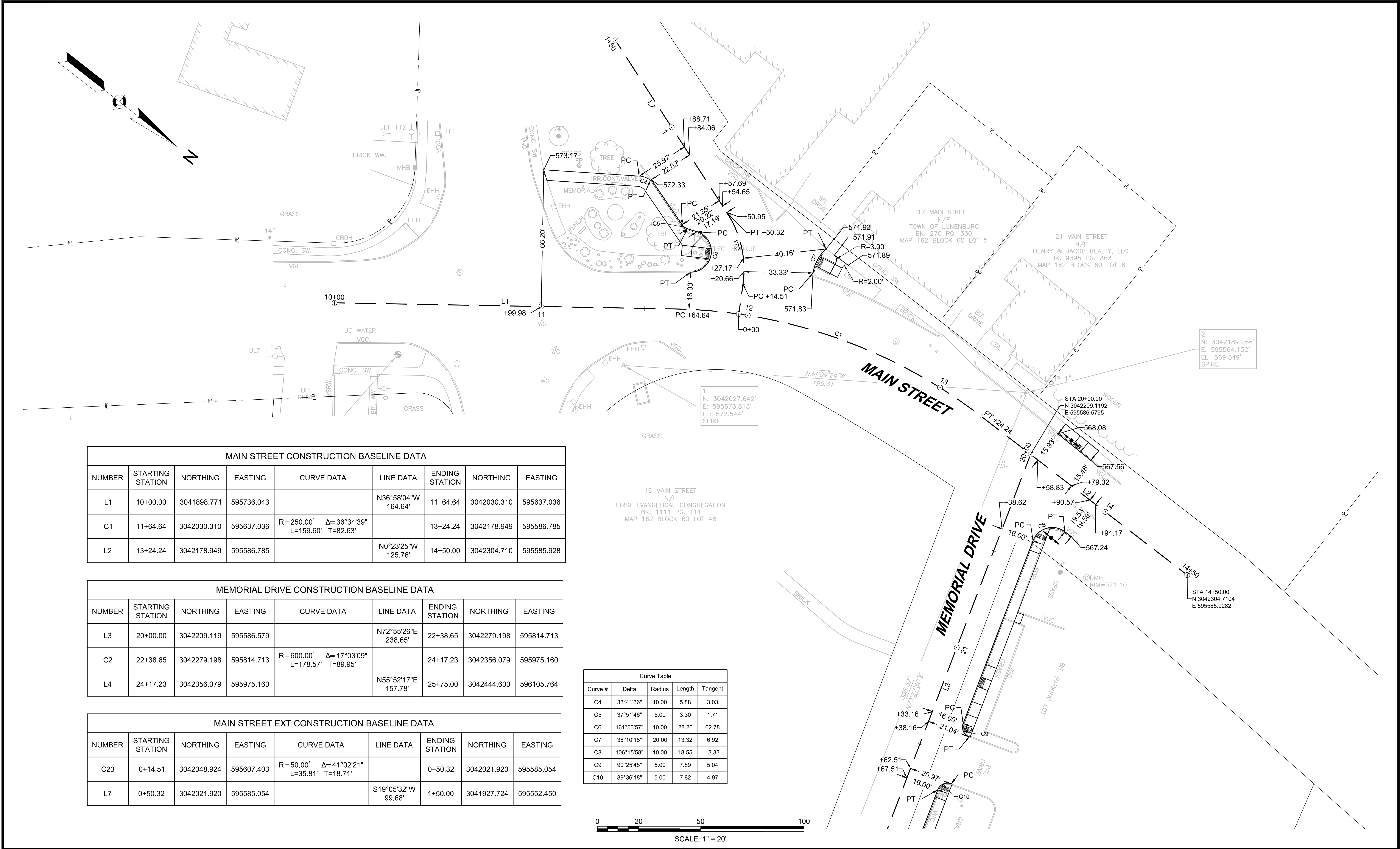


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<p>PROFESSIONAL CIVIL ENGINEER FOR WORLDTECH ENGINEERING, LLC</p>										

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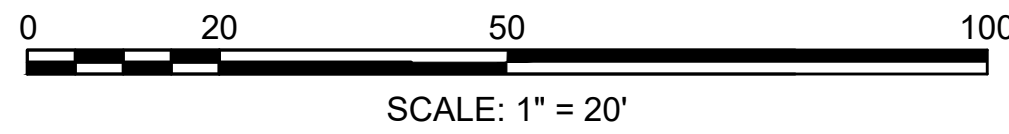
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CLIENT: TOWN OF LUNENBURG 17 MAIN STREET LUNENBURG, MA 01642 PHONE: 978-582-4144	PROJECT: COMPLETE STREETS PROJECT THREE LOCATIONS LUNENBURG, MA	PREPARED BY: WORLDTECH ENGINEERING 300 TRADECENTER, SUITE 5580 WOBURN, MA 01801 T: 781-933-4800 F: 781-933-4801	PROFESSIONAL CIVIL ENGINEER FOR WORLDTECH ENGINEERING, LLC	NO.	DATE	REVISION	SCALE:	1" = 20'	DRAWING TITLE: CURB TIE AND GRADING PLANS	SHEET NO. 6 of 12
							DATE:	MARCH 2021		
							WTE PROJ. NO:	20-019.01		
							DESIGNED BY:	KMC		
							CHECKED BY:	TFQ		

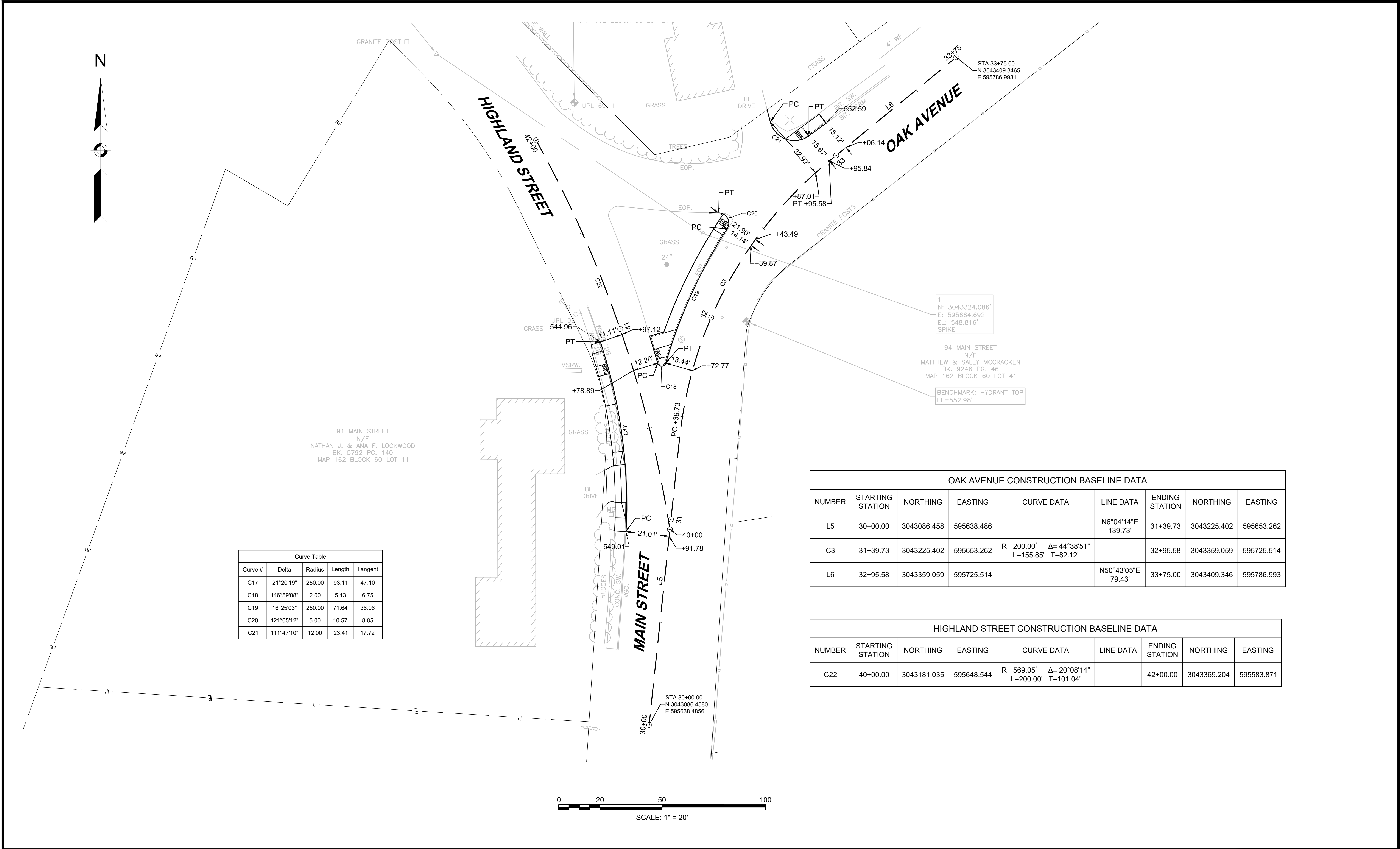
Curve Table				
Curve #	Delta	Radius	Length	Tangent
C11	63°15'23"	10.00	11.04	6.16
C12	72°58'54"	5.00	6.37	3.70
C13	82°03'11"	25.00	35.80	21.75
C14	107°51'41"	22.00	41.42	30.20
C15	95°31'22"	20.00	33.34	22.03
C16	89°54'02"	5.00	7.85	4.99

MEMORIAL DRIVE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L3	20+00.00	3042209.119	595586.579		N72°55'26"E 238.65'	22+38.65	3042279.198	595814.713
C2	22+38.65	3042279.198	595814.713	R = 600.00' Δ= 17°03'09" L=178.57' T=89.95'		24+17.23	3042356.079	595975.160
L4	24+17.23	3042356.079	595975.160		N55°52'17"E 157.78'	25+75.00	3042444.600	596105.764



<div>CLIENT:</div> <div>TOWN OF LUNENBURG</div> <div>17 MAIN STREET LUNENBURG, MA 01642 PHONE: 978-582-4144</div>	<div>PROJECT:</div> <div>COMPLETE STREETS PROJECT THREE LOCATIONS</div> <div>LUNENBURG, MA</div>	<div>PREPARED BY:</div> <div> 300 TRADECENTER, SUITE 5580 WOBURN, MA 01801 T: 781-933-4800 F: 781-933-4801</div>	<div></div> <div>PROFESSIONAL CIVIL ENGINEER FOR WORLDTECH ENGINEERING, LLC</div>	NO.	DATE	REVISION	SCALE:	1" = 20'	<div>DRAWING TITLE:</div> <div>CURB TIE AND GRADING PLANS</div>	<div>SHEET NO.</div> <div>7 OF 12</div>
							DATE:	MARCH 2021		
							WTE PROJ. NO:	20-019.01		
							DESIGNED BY:	KMC		
							CHECKED BY:	TFQ		

Filename: J:\Lunenburg\20-019.01 Lunenburg - Complete Streets Design\Design\20-019.01\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\20-019.01_HD(Grading Plan-Oak).dwg



Curve Table				
Curve #	Delta	Radius	Length	Tangent
C17	21°20'19"	250.00	93.11	47.10
C18	146°59'08"	2.00	5.13	6.75
C19	16°25'03"	250.00	71.64	36.06
C20	121°05'12"	5.00	10.57	8.85
C21	111°47'10"	12.00	23.41	17.72


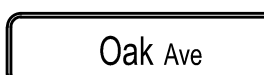












OAK AVENUE CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	30+00.00	3043086.458	595638.486		N6°04'14"E 139.73'	31+39.73	3043225.402	595653.262
C3	31+39.73	3043225.402	595653.262	R=200.00' Δ=44°38'51" L=155.85' T=82.12'		32+95.58	3043359.059	595725.514
L6	32+95.58	3043359.059	595725.514		N50°43'05"E 79.43'	33+75.00	3043409.346	595786.993

HIGHLAND STREET CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C22	40+00.00	3043181.035	595648.544	R=569.05' Δ=20°08'14" L=200.00' T=101.04'		42+00.00	3043369.204	595583.871

CLIENT: TOWN OF LUNENBURG 17 MAIN STREET LUNENBURG, MA 01642 PHONE: 978-582-4144	PROJECT: COMPLETE STREETS PROJECT THREE LOCATIONS LUNENBURG, MA	PREPARED BY: WORLDTECH ENGINEERING 300 TRADECENTER, SUITE 5580 WOBURN, MA 01801 T: 781-933-4800 F: 781-933-4801	PROFESSIONAL CIVIL ENGINEER FOR WORLDTECH ENGINEERING, LLC	NO.	DATE	REVISION	SCALE:	1" = 20'	DRAWING TITLE: CURB TIE AND GRADING PLANS	SHEET NO. 8 of 12
							DATE:	MARCH 2021		
							WTE PROJ. NO:	20-019.01		
							DESIGNED BY:	KMC		
							CHECKED BY:	TFQ		

Filename: J:\Lunenburg\20-019.01 Lunenburg - Complete Streets Design\Design\20-019.01\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\20-019.01_HD(Sign Summary).dwg

TRAFFIC SIGN SUMMARY

SIGN ID NUMBER	SIZE		MESSAGE	DIMENSIONS (IN)			NUMBER REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	TOTAL AREA (S.F.)
	WIDTH (IN)	HEIGHT (IN)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND	BORDER			
D3-100	51	12		6D / 4D 4.5D / 3.375D	3" 3"	N/A	2	GREEN	WHITE	WHITE	MOUNT WITH R1-1	EACH	EACH
D3-101	39	12		6D / 4D 4.5D / 3.375D	3" 3"	N/A	2	GREEN	WHITE	WHITE	MOUNT WITH R1-1	EACH	EACH
R1-1	30	30					6	RED	WHITE	WHITE	P5 6 REQ'D	6.25	37.50
R7-1	12	18					2	WHITE	RED	RED	P5 2 REQ'D	1.50	3.00
R7-5	12	18					1	WHITE	GREEN	GREEN	P5 1 REQ'D	1.50	1.50
R10-25	9	12					2	WHITE	BLACK	BLACK	MOUNT WITH RRFB'S	0.75	1.50
W11-2	30	30					4	FLOR. YELLOW GREEN	BLACK	BLACK	MOUNT WITH RRFB'S	6.25	25.00
W16-7p	24	12					4	FLOR. YELLOW GREEN	BLACK	BLACK	MOUNT WITH RRFB'S	2.00	8.00
											TOTAL AREA		76.50

TEMPORARY CONSTRUCTION SIGN SUMMARY

SIGN ID NUMBER	SIZE		MESSAGE	DIMENSIONS (IN)			NUMBER REQUIRED	COLOR		
	WIDTH (IN)	HEIGHT (IN)		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK- GROUND	LEGEND	BORDER
MA-R2-10a	30	24		2	2	2	4	ORANAGE WHITE	BLACK	BLACK
MA-R2-10e	24	30					4	ORANAGE WHITE	BLACK	BLACK
R9-9	36	18		1	1	1	2	ORANGE	BLACK	BLACK
W13-1	24	24					2	ORANAGE	BLACK	BLACK
W20-1	36	36					4	ORANAGE	BLACK	BLACK
MA-W20-7b	36	36		2	2	2	3	ORANAGE	BLACK	BLACK

SIGN SUMMARY NOTES:

1. NUMERICAL LIMITS AND JUSTIFICATION FOR SPEED & ADVISORY EXIT SPEED SIGNS SHALL BE OBTAINED FROM THE SPEED ZONING UNIT OF THE TRAFFIC ENGINEERING SECTION, MASSDOT, BEFORE FABRICATION AND/OR ERECTION.
2. HIGH INTENSITY ENCAPSULATED LENS REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" 2009 EDITION, THE 1996 MASSDOT CONSTRUCTION AND TRAFFIC STANDARD DETAILS", AND ALL ADMENDMENTS WILL GOVERN.
3. ① SEE MUTCD 2009 EDITION, 1979 STD. HWY. SIGNS AND SECTION M9.30.0 TYPE III OF THE MASSDOT STANDARD SPECIFICATION FOR TEXT DIMENSIONS AND COLOR.
② SEE MASSDOT SIGN STANDARDS.

CLIENT: TOWN OF LUNENBURG 17 MAIN STREET LUNENBURG, MA 01642 PHONE: 978-582-4144	PROJECT: COMPLETE STREETS PROJECT THREE LOCATIONS LUNENBURG, MA	PREPARED BY: 300 TRADECENTER, SUITE 5580 WOBURN, MA 01801 T: 781-933-4800 F: 781-933-4801	<div></div> <div>PROFESSIONAL CIVIL ENGINEER FOR WORLDTECH ENGINEERING, LLC</div>	NO.	DATE	REVISION	SCALE:	NONE	DRAWING TITLE: TRAFFIC SIGN SUMMARY	SHEET NO. 9 of 12
							DATE:	MARCH 2021		
							WTE PROJ. NO:	20-019.01		
							DESIGNED BY:	KMC		
							CHECKED BY:	TFQ		

Filename: J:\Lunenburg\20-019.01 Lunenburg - Complete Streets Design\Design\20-019.01\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\20-019.01_HD(Con Details).dwg

PAVEMENT NOTES:

PROPOSED CEMENT CONCRETE SIDEWALKS / WALKS / WHEELCHAIR RAMP:
4" CEMENT CONCRETE
AIR ENTRAINED 4000 PSI, 3/4" 610 OVER
8" GRAVEL BORROW

PROPOSED CEMENT CONCRETE SIDEWALK AT DRIVEWAY:
6" CEMENT CONCRETE
AIR ENTRAINED 4000 PSI, 3/4" 610 OVER
8" GRAVEL BORROW

PROPOSED HMA WALK:
1 1/4" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5) OVER
1 3/4" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER
8" GRAVEL BORROW

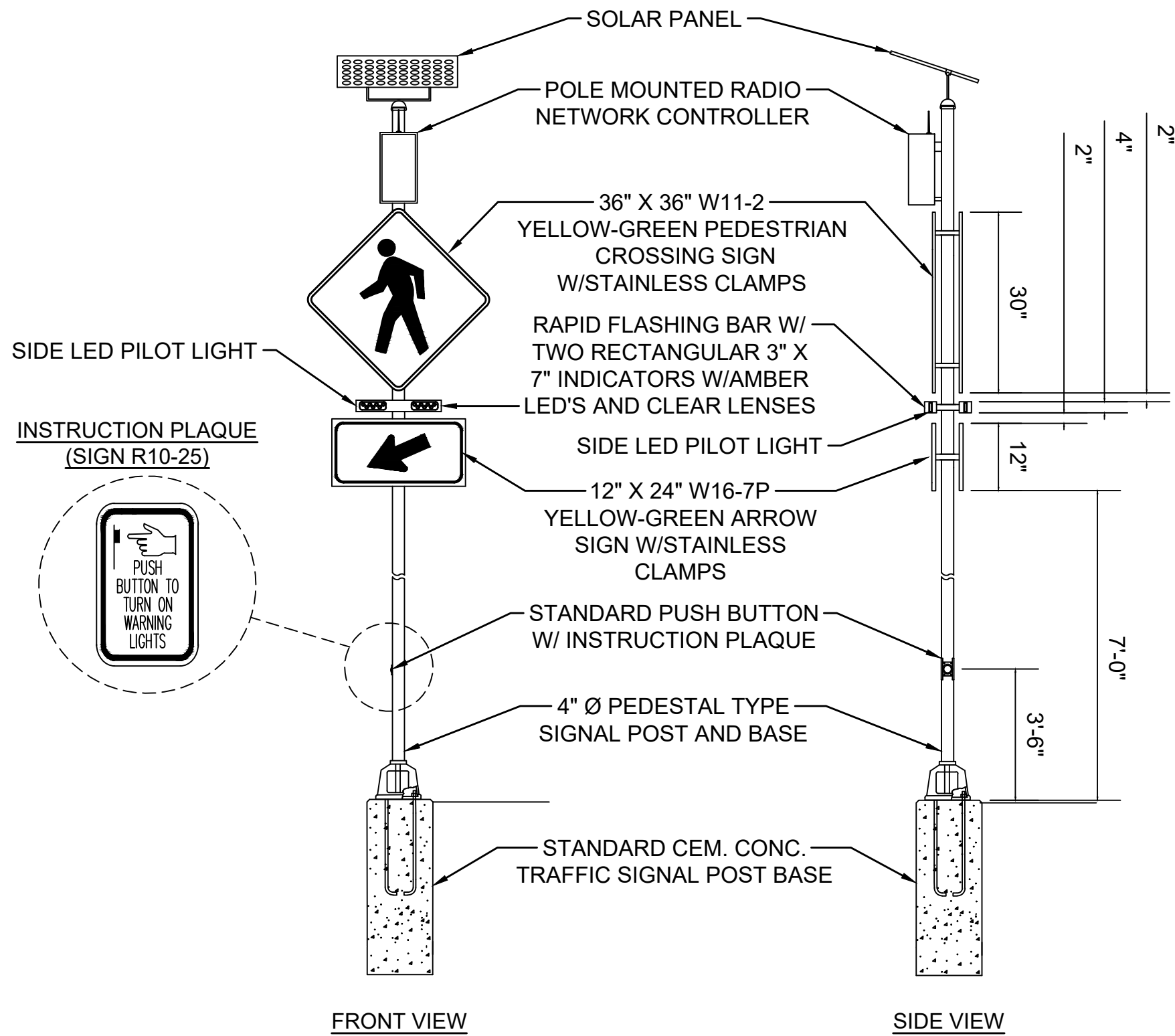
PROPOSED HMA DRIVEWAYS:
1 1/2" SUPERPAVE SURFACE COURSE - 9.5 (SSC-9.5) OVER
2 1/2" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER
8" GRAVEL BORROW

PROPOSED BARK MULCH:
4" AGED PINE BARK MULCH

PROPOSED LAWNS AND SLOPES:
4" LOAM AND SEED

GENERAL NOTES:

1. PREPARATION OF UNDERLYING SURFACE, ASPHALT EMULSION FOR TACK COAT, HMA FOR PATCHING AND HMA JOINT SEALANT SHALL BE IN ACCORDANCE WITH SECTION 450.

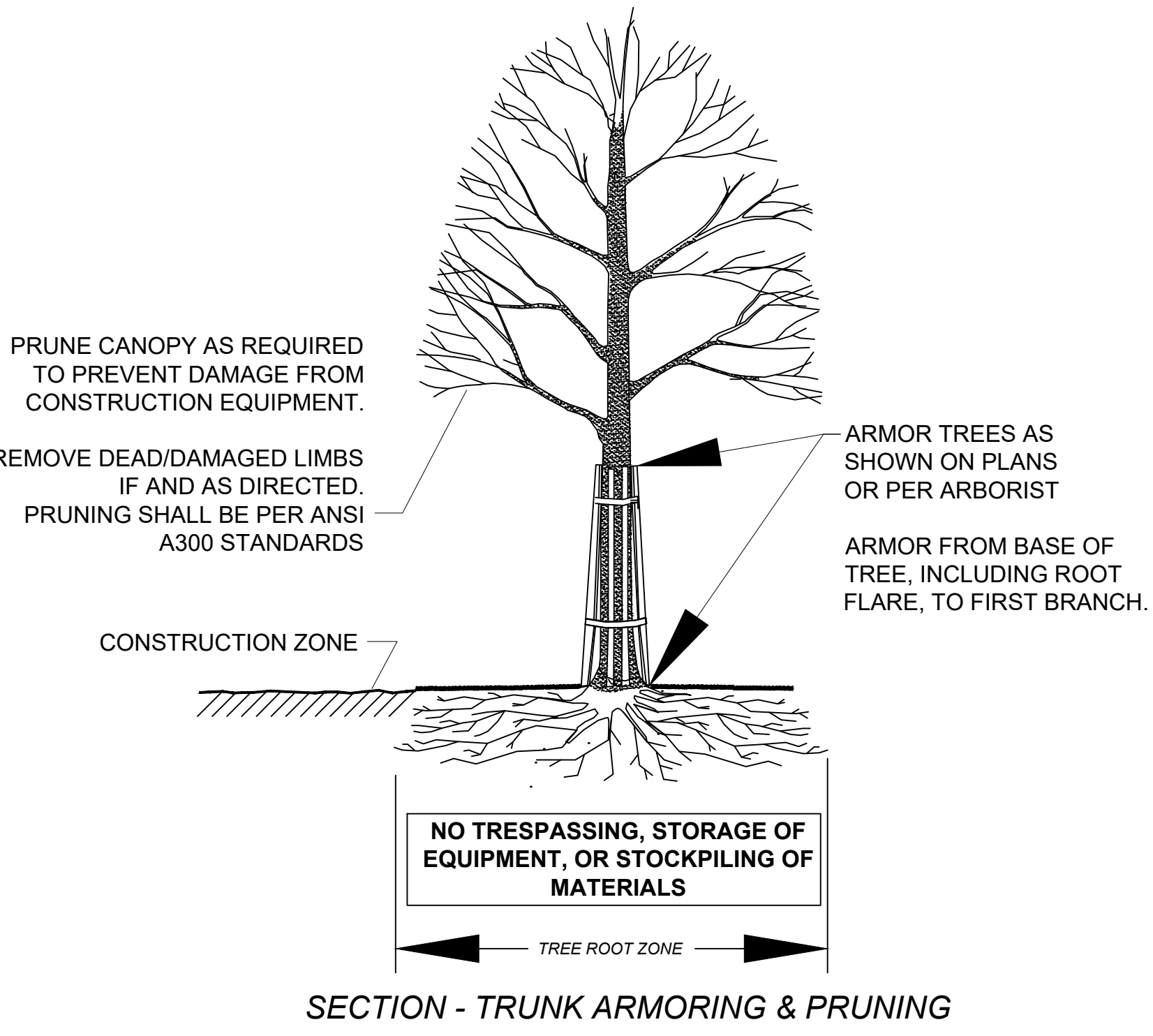
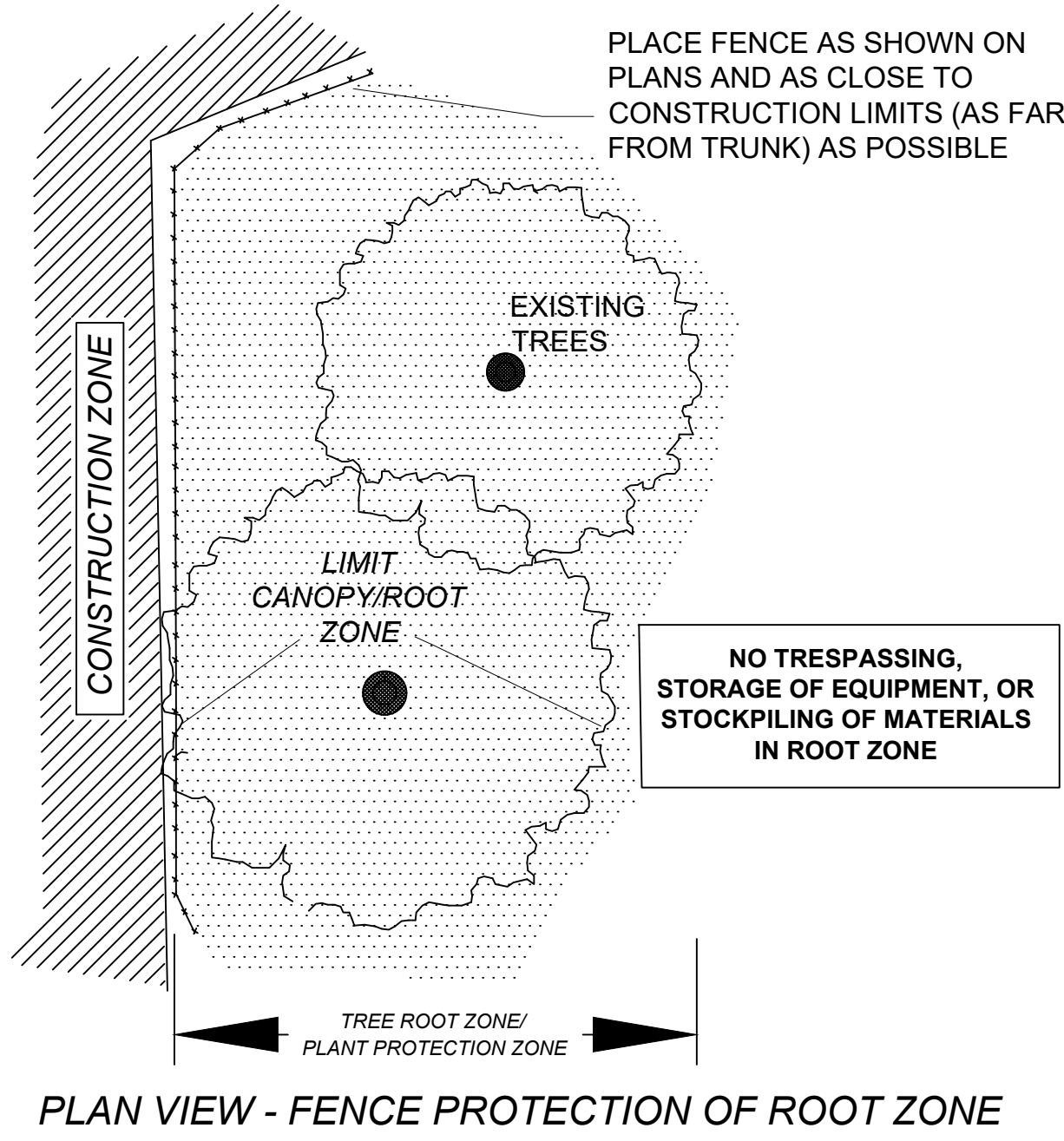
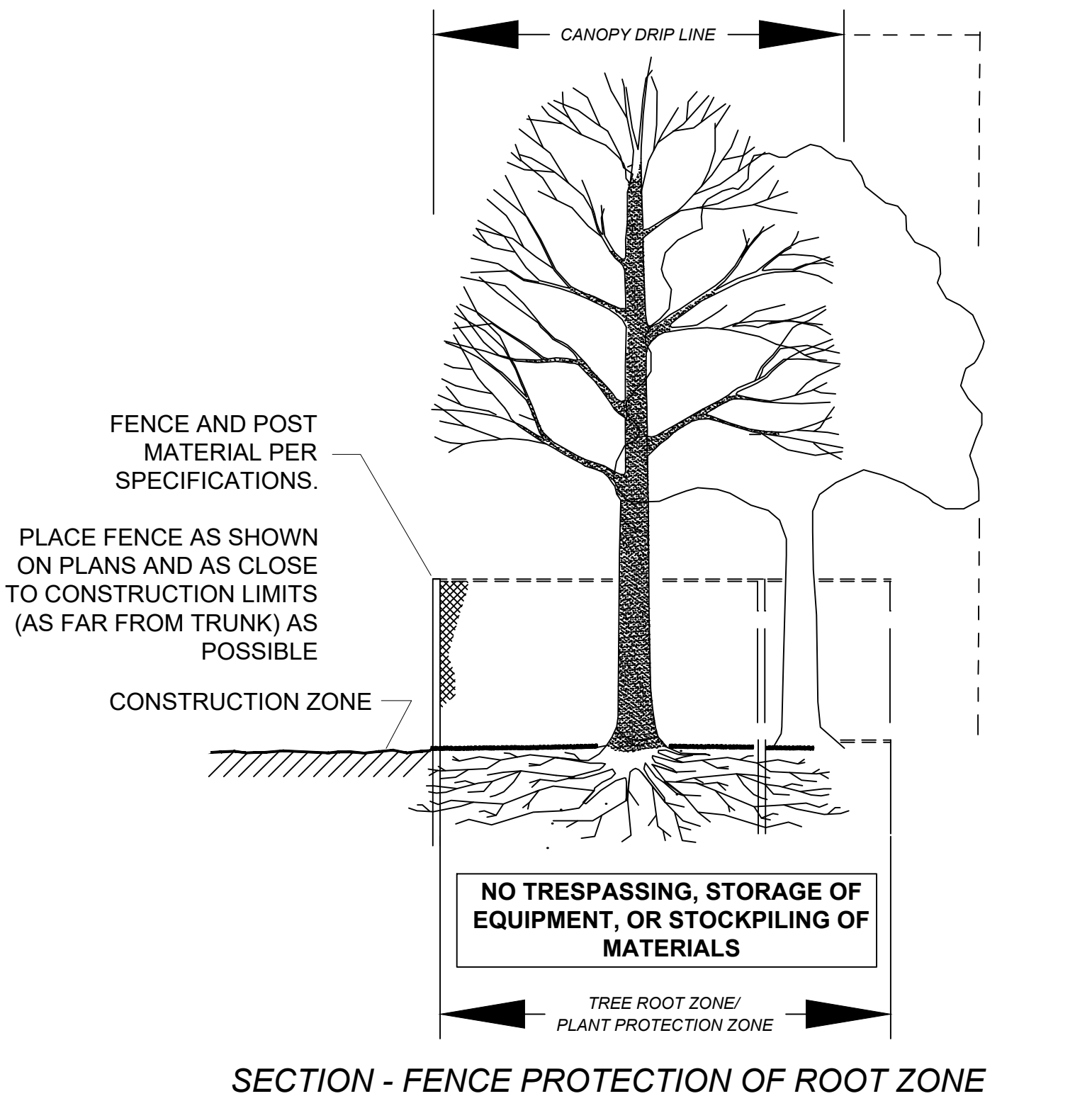


RRFB NOTES:

1. RECTANGULAR RAPID FLASHING BEACON (RRFB) SHALL BE SUPPLIED FROM A MANUFACTURER LISTED ON THE MASSDOT APPROVED EQUIPMENT LIST.
2. EACH LOCATION SHALL HAVE TWO (2) RRFB INSTALLED (ONE ON EACH SIDE OF THE CROSSWALK).
3. R10-25 SIGNS SHALL BE INSTALLED ABOVE ALL PEDESTRIAN PUSH BUTTONS.
4. OPERABLE CONTROLS ON RRFB SHALL BE LOCATED PER ADA STANDARDS 305-309.
5. WARNING SIGNS AND INSTRUCTIONAL SIGNS ARE PAID SEPARATELY UNDER ITEM 832.
6. REFER TO GENERAL PLANS FOR WARNING SIGNS.

RRFB CLEARANCE TIME

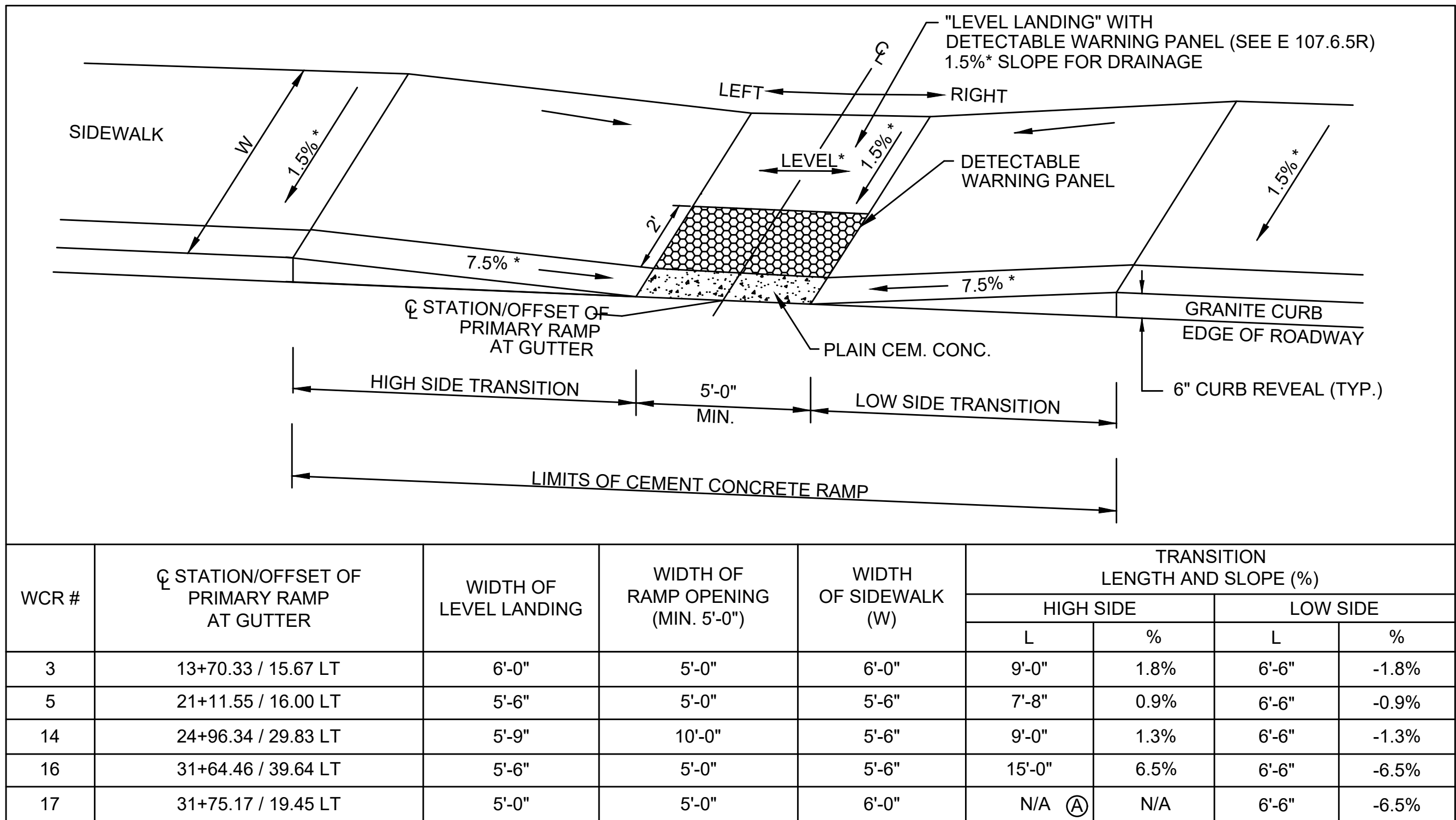
APPROACH	LENGTH (ft)	CLEARANCE (s)
LOCATION 1	42	14



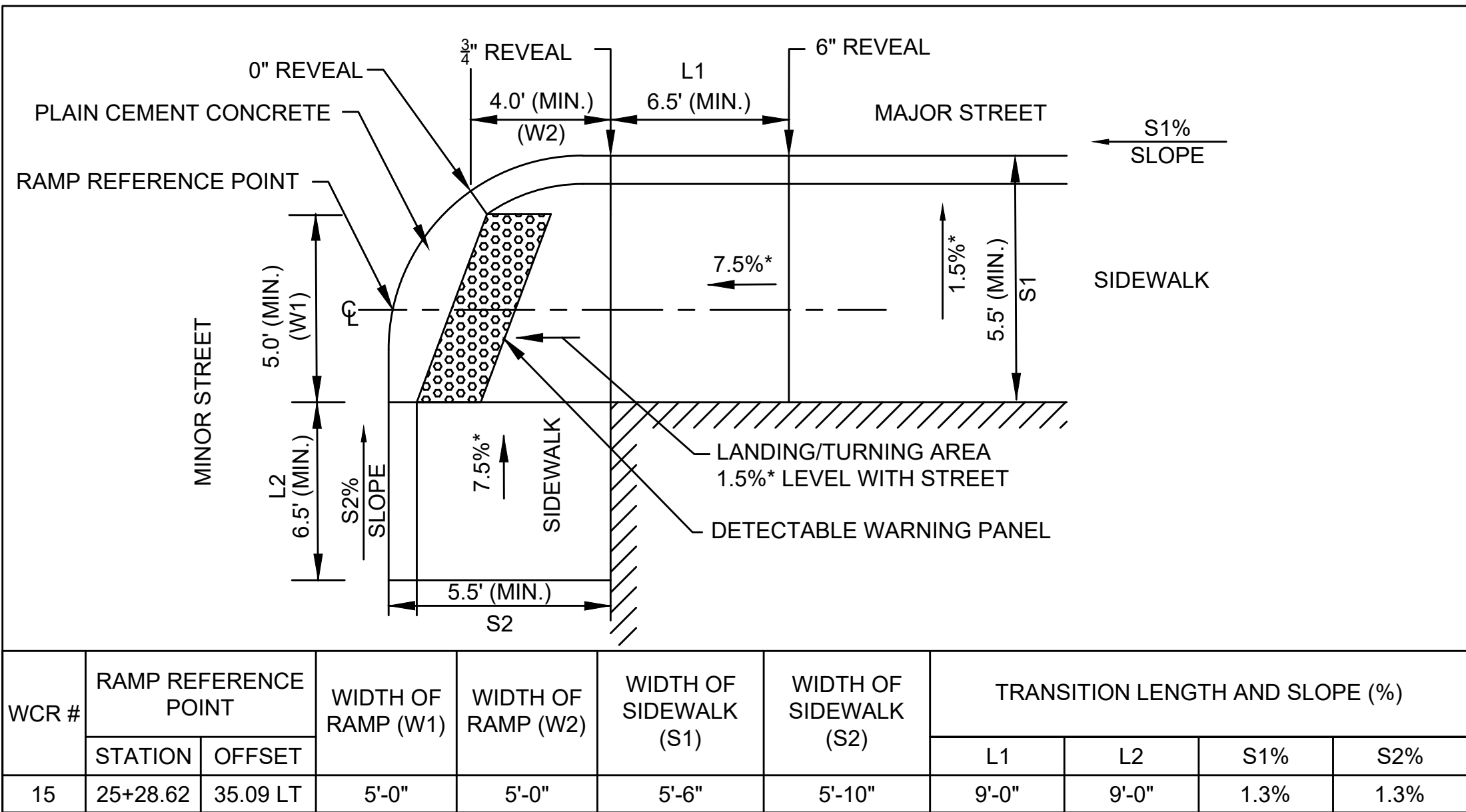
TREE PROTECTION DETAIL
N.T.S.

CLIENT:	PROJECT:	PREPARED BY:	NO.	DATE	REVISION	SCALE:	NONE	DRAWING TITLE:	SHEET NO.
TOWN OF LUNENBURG 17 MAIN STREET LUNENBURG, MA 01642 PHONE: 978-582-4144	COMPLETE STREETS PROJECT THREE LOCATIONS LUNENBURG, MA	WORLDTECH ENGINEERING 300 TRADECENTER, SUITE 5580 WOBURN, MA 01801 T: 781-933-4800 F: 781-933-4801				DATE:	MARCH 2021	CONSTRUCTION DETAILS AND PAVEMENT NOTES	10 of 12
		PROFESSIONAL CIVIL ENGINEER FOR WORLDTECH ENGINEERING, LLC				WTE PROJ. NO:	20-019.01		
						DESIGNED BY:	KMC		
						CHECKED BY:	TFQ		

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PEDESTRIAN CURB RAMP ON NARROW SIDEWALK (DEPTH LESS THAN 6'-6")



"T" INTERSECTION PEDESTRIAN CURB RAMP

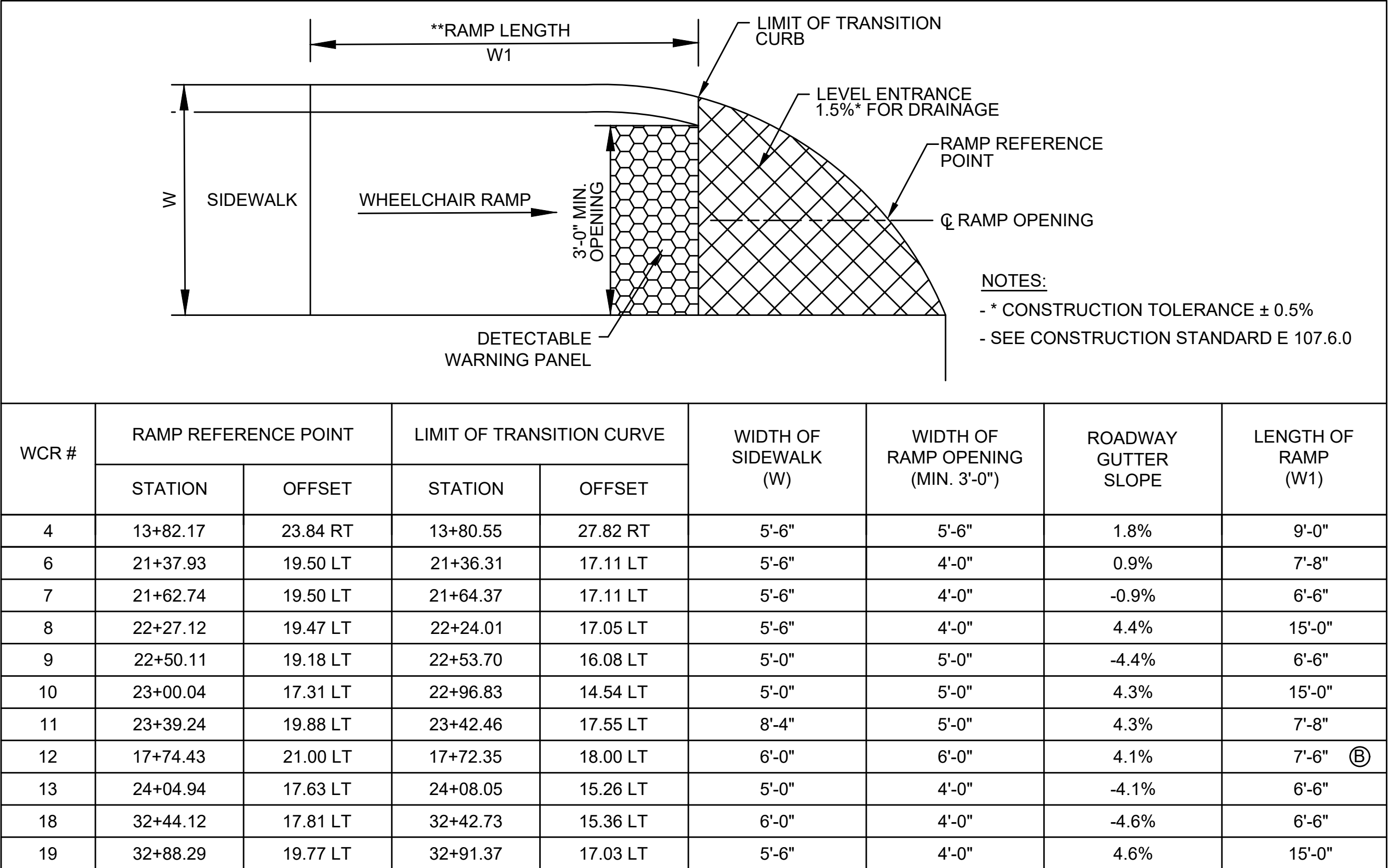
NOTES:

* CONSTRUCTION TOLERANCE $\pm 0.5\%$.

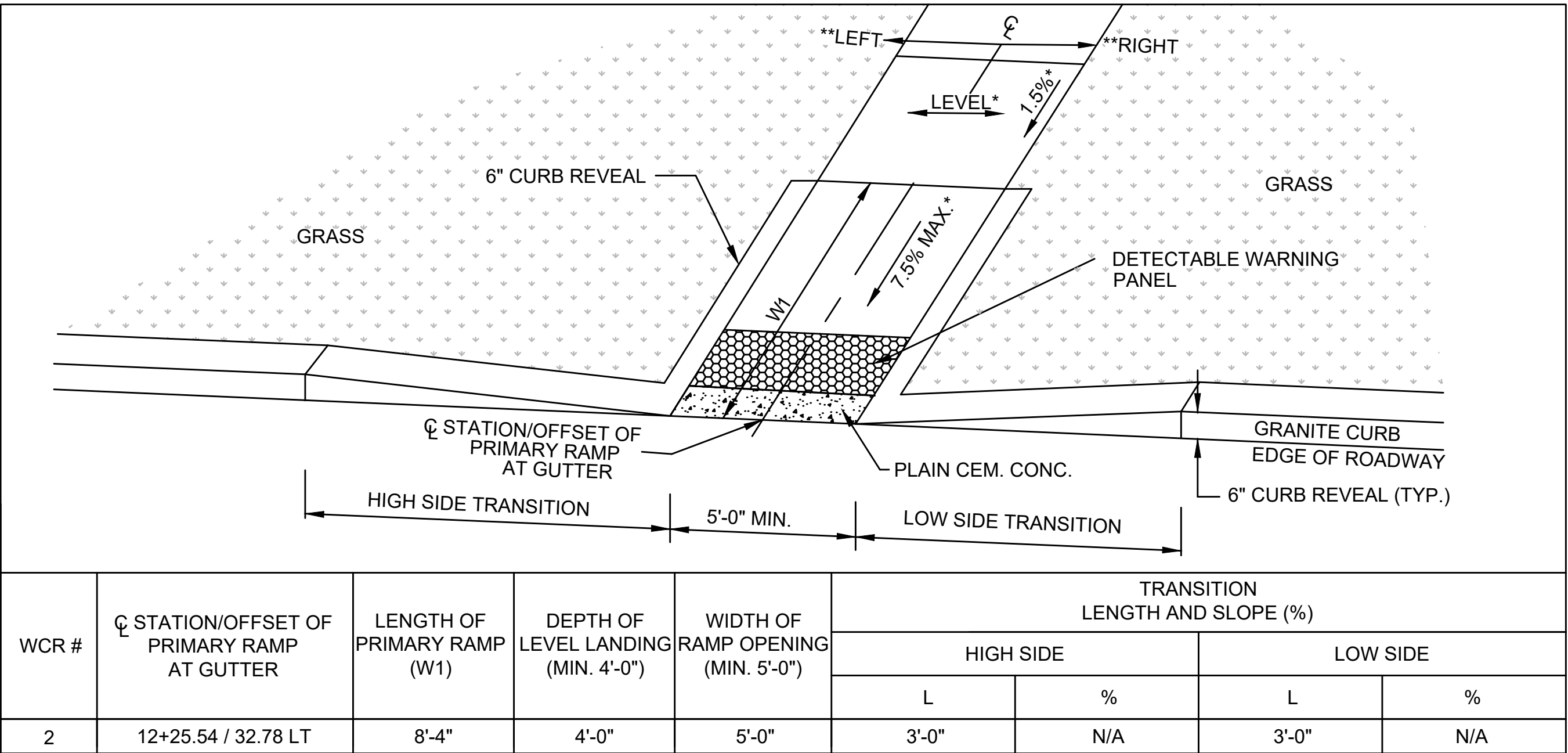
(A) NO TRANSITION, 6" CURB REVEAL

DETECTABLE WARNING PANELS SHALL BE INCLUDED ON ALL PROPOSED PEDESTRIAN CURB RAMPS AS SHOWN IN THE MASSDOT CONSTRUCTION STANDARDS ISSUED IN OCTOBER 2017, DRAWING NO. E 107.6.5.

(B) 3" CURB REVEAL



PEDESTRIAN CURB RAMP WITH CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL (ROUNDED CORNER)



PEDESTRIAN CURB RAMP WITH CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL (GRASS)

CLIENT:

TOWN OF LUNENBURG

17 MAIN STREET
LUNENBURG, MA 01642
PHONE: 978-582-4144

PROJECT:

COMPLETE STREETS PROJECT
THREE LOCATIONS

LUNENBURG, MA

PREPARED BY:

WORLDTECH
ENGINEERING

300 TRADECENTER, SUITE 5580
WOBURN, MA 01801
T: 781-933-4800
F: 781-933-4801

PROFESSIONAL CIVIL ENGINEER FOR
WORLDTECH ENGINEERING, LLC

NO. DATE

REVISION

SCALE:

NONE

DATE:

MARCH 2021

WTE PROJ. NO:

20-019.01

DESIGNED BY:

KMC

CHECKED BY:

TFQ

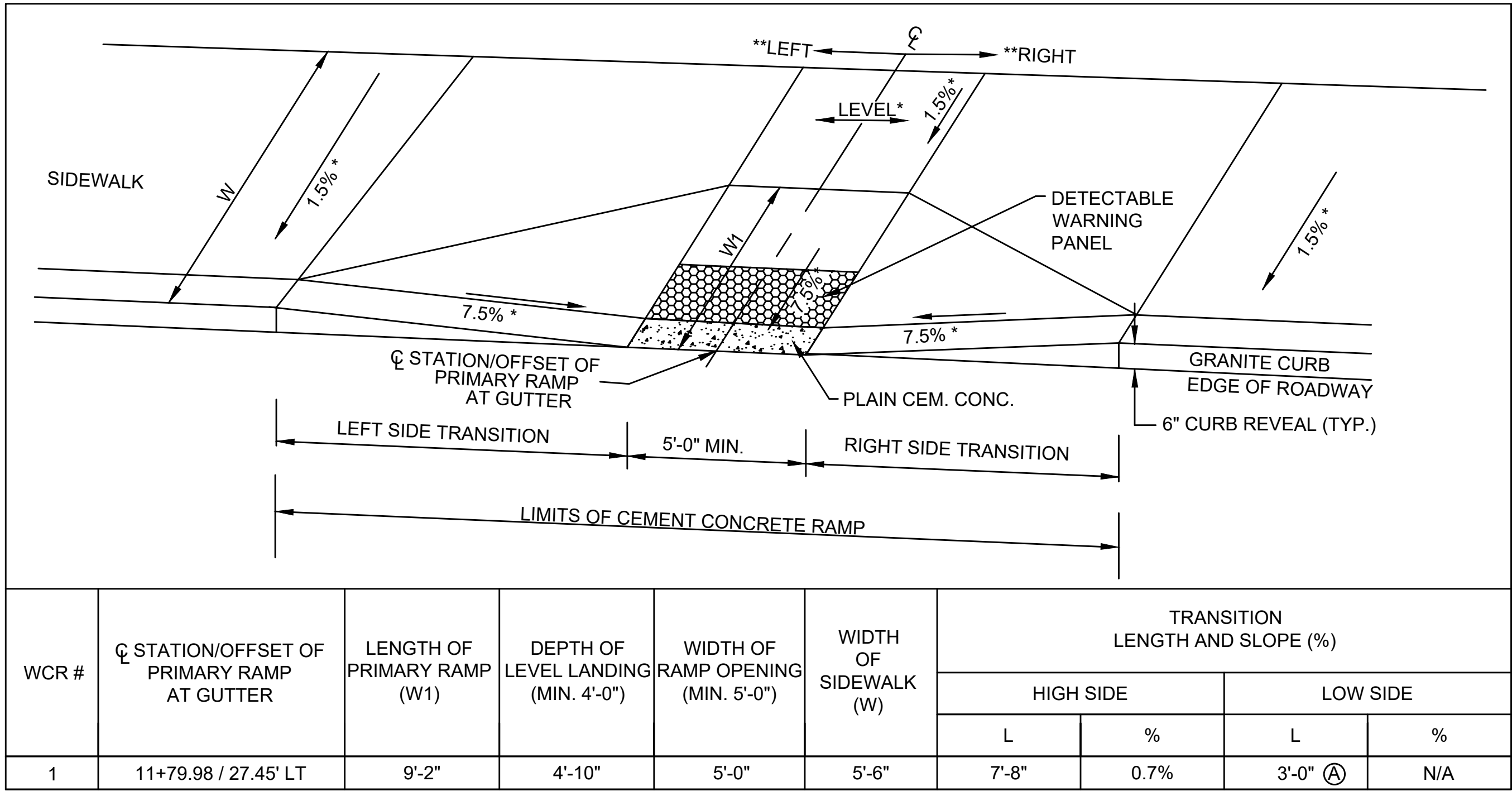
DRAWING TITLE:

PEDESTRIAN CURB
RAMP AND
DRIVEWAY DETAILS

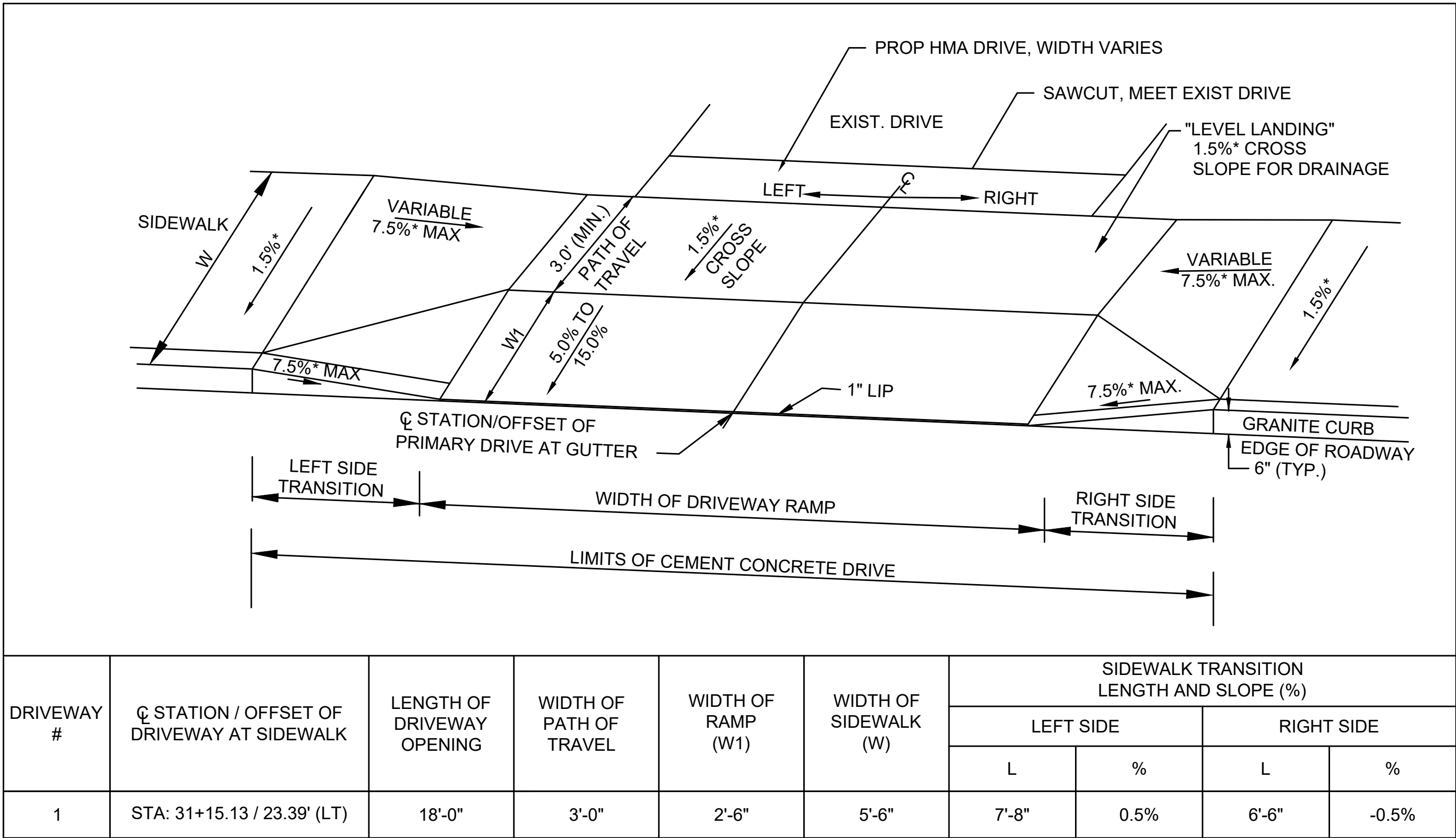
SHEET NO.

11 of 12

Filename: J:\Lunenburg\20-019.01 Lunenburg - Complete Streets Design\Design\20-019.01\Project Drawing Data\Plan Sheet Files\Plan Sheet DWG\20-019.01_HD(Wheelchair Details).dwg



PEDESTRIAN CURB RAMP ON SIDEWALK WITH SIDEWALK WIDTH >12'-4"



CEMENT CONCRETE SIDEWALK AT DRIVEWAYS

NOTES:

* CONSTRUCTION TOLERANCE $\pm 0.5\%$.

(A) NO TRANSITION, 6" CURB REVEAL

DETECTABLE WARNING PANELS SHALL BE INCLUDED ON ALL PROPOSED PEDESTRIAN CURB RAMPS AS SHOWN IN THE MASSDOT CONSTRUCTION STANDARDS ISSUED IN OCTOBER 2017, DRAWING NO. E 107.6.5.

(B) 3" CURB REVEAL

CLIENT:

TOWN OF LUNENBURG

17 MAIN STREET
LUNENBURG, MA 01642
PHONE: 978-582-4144

PROJECT:

COMPLETE STREETS PROJECT
THREE LOCATIONS

LUNENBURG, MA

PREPARED BY:

WORLDTECH
ENGINEERING

300 TRADECENTER, SUITE 5580
WOBURN, MA 01801
T: 781-933-4800
F: 781-933-4801

PROFESSIONAL CIVIL ENGINEER FOR
WORLDTECH ENGINEERING, LLC

NO. DATE

REVISION

SCALE:

NONE

DATE:

MARCH 2021

WTE PROJ. NO:

20-019.01

DESIGNED BY:

KMC

CHECKED BY:

TFQ

DRAWING TITLE:

PEDESTRIAN CURB
RAMP AND
DRIVEWAY DETAILS

SHEET NO.

12 OF 12